California Regional Water Quality Control Board
Santa Ana Region
Cleanup and Abatement Order No. 98-112
for
McWhirter Real Estate and Investment Company
Big Bear Texaco
40553 Big Bear Boulevard, Big Bear Lake, CA

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Board), finds that:

1. McWhirter Real Estate and Investment Company (hereinafter McWhirter) owns the property located at 40553 Big Bear Boulevard, Big Bear Lake, San Bernardino County. The site is occupied by a Texaco gasoline station which has been in operation since 1960. McWhirter also owns the underground storage tanks (USTs) located at the site. The site is situated in the San Bernardino Mountains and is located in the City of Big Bear Lake, approximately 800 feet south of the Big Bear Lake. The location of the site is shown on Figure 1.

2. In May 1990, a report from the Big Bear Fire Department indicated that free gasoline product was encountered in a test well located at the site. Hand auger borings were excavated and free product was observed in the groundwater. Groundwater was encountered at approximately 3 feet below ground surface (bgs).

3. In May 1990, in response to the finding of free product, a site assessment was conducted. Three groundwater monitoring wells and two vadose zone wells were installed at the site. Elevated levels of soil contamination were detected near the underground storage tanks (USTs) and in the northwest corner of the site. The following table presents the highest concentrations of soil contamination detected at the site.

SOIL CONTAMINATION

CONTAMINANT (Φg/kg)	Middle portion of USTs (turbine #2)	NW portion of the site	NW portion of the USTs
Total Petroleum Hydrocarbons (TPH)	4,870,000	185,000	3,380
Benzene (B)	138,000	2,000	17,000
Toluene (T)	359,000	24,600	62,000
Ethylbenzene (E)	172,000	7,400	77,000
Total Xylenes (X)	1,330,000	44,400	297,000

4. In August 1990, three USTs were removed from the site. Soil samples were collected and the soil results revealed petroleum hydrocarbon contamination. New 10,000-gallon, double-walled USTs were installed in the same area. Free product was observed in the groundwater near the USTs. However, a groundwater well was not installed in the area of the free product.

5. In August 1990, groundwater samples were collected from the three monitoring wells at the site and the results revealed groundwater contamination. Benzene concentrations ranged from none detected (ND) to 112 Φg/l. Total petroleum hydrocarbons (TPH) ranged from ND to 600 Φg/l. The groundwater gradient was reported as west to northwesterly, towards Big Bear Lake.

6. On May 21, 1992, a letter was sent by Board staff to McWhirter which requested additional groundwater monitoring and investigation to further define the groundwater contamination plume.

7. In August 1992, additional groundwater samples were collected. The analytical results at that time were ND for gasoline constituents. From 1992 to 1994, groundwater monitoring continued at the site. Groundwater sampling results for this period indicated low to moderate levels of petroleum hydrocarbons. Total petroleum hydrocarbons (TPH) ranged from 50 to 1470 Φg/l. Benzene, Toluene, Ethylbenzene and total Xylenes (BTEX) ranged from 4 to 110 Φg/l, 4 to 360 Φg/l, 1.4 to 830 Φg/l and 6.6 to 374 Φg/l, respectively. During that time, the environmental consultant added one of the vadose zone wells as a groundwater monitoring well and abandoned the other vadose zone well. Therefore, four monitoring wells instead of the original three wells are depicted on the site plan (Fig. 2).

8. On May 10, 1995, Board staff sent a letter to McWhirter which reiterated the request for further investigation in the down-gradient direction to fully define the contamination plume. In addition, Board staff requested that groundwater monitoring continue at the site and that methyl tertiary butyl ether (MtBE) be included in the analysis.

9. On September 6, 1995, a report presenting groundwater monitoring results was submitted. In August 1995, groundwater samples were collected and the results revealed low to moderate levels of TPH and BTEX. However, MtBE was detected at up to 18,000 Φg/l. The report also recommended that wells MW-3 and MW-2 be abandoned and replaced. These groundwater results are presented below:

GROUNDWATER RESULTS

Well No.	TPH Φg/l	Benzene Φg/l	Toluene Φg/l	Ethyl-benzene Φg/l	Total Xylenes Φg/l	MtBE Φg/l	Screen Interval
MW-1 down-gradient	570	6	130	13	120	220	10-29 feet
[redacted]							5 -15 feet
dispenser islands							5 - 20 feet
MW-4 - up-gradient well	ND	ND	ND	ND	ND	ND	40-60 feet

[redacted]

McWhirter, Advance Geoenvironmental, Mr. Peters, and Board staff. At that meeting, it was agreed that since it had been a long time since the last sampling event, groundwater samples should be collected prior to additional investigation. On May 20, 1998, groundwater samples were collected and results revealed high levels of BTEX and MtBE in the most downgradient well (MW-1). Board staff obtained spilt groundwater samples and the analytical results were similar.

15. On July 14, 1998, Board staff sent a letter to McWhirter and requesting further off-site investigation. On July 24, 1998, a response letter from Mr. Peters was sent to Mr. Gerard Thibeault, Executive Officer. Mr. Peters requested that the Board staff's decision to request further investigation be reviewed by the Board.

16. In an August 10, 1998 letter, Board staff requested additional data prior to scheduling this matter for Regional Board consideration. On August 20, 1998, additional groundwater samples were collected by both the consultant and Board staff. Again, elevated levels of MtBE were detected in the most downgradient monitoring well, MW-1. In addition, MtBE levels increased in MW-3 (next to the dispensers). The following table summarizes data collected by the consultant from the May 20 and August 20 sampling events:

Well No.	TPH Φg/l	Benzene Φg/l	Toluene Φg/l	Ethyl-benzene Φg/l	Total Xylenes Φg/l	MtBE Φg/l	Screen Interval
MW-1 5/20/98 8/20/98	 NA 4460	 290 14.8	 7,500 347	 1,200 88.5	 8,400 558	 6,500 3840	10-29 feet
MW-2 5/20/98 8/20/98	 NA ND	 ND 1.61	 1.2 3.38	 ND 1.73	 ND 7.13	 120 36.4	5-15 feet
MW-3: 5/20/98 8/20/98	 ND ND	 ND ND	 ND ND	 ND ND	 ND ND	 4.3 711	5-20 feet
MW-4 5/20/98 8/20/98	 NA ND	 ND ND	 ND ND	 ND ND	 ND ND	 ND ND	40-60 feet

NA - Not Analyzed

17. The subject site overlies the Big Bear Valley Groundwater Subbasin, and the beneficial uses of which include:

    a. Municipal and domestic supply, and
    b. Industrial process supply.

19. The subject site is located approximately 800 feet from Big Bear Lake, the beneficial uses of which include:

    a. Agricultural supply,
    b. Groundwater recharge,
    c. Recreational use (water contact and non-contact),
    d. Warm and cold freshwater habitat,
    e. Wildlife habitat, and
    g. Rare, threatened or endangered species.

20. The Big Bear Valley Groundwater Subbasin provides 100 percent of the domestic supply in the Big Bear Area. The City of Big Bear Lake, Department of Water and Power, has future plans to install a municipal supply well approximately 500 feet north of the Big Bear Texaco site.

21. McWhirter Real Estate and Investment Company (McWhirter) has caused or permitted wastes to be discharged into waters of the State and is creating, or threatening to create, a condition or nuisance or pollution. Therefore, pursuant to Water Code Section 13304, it is appropriate to require McWhirter to clean up such waste and abate the effects thereof or take other appropriate remedial action.

22. Water Code Section 13304 allows the Regional Board to recover reasonable expenses from the responsible parties for overseeing cleanup of illegal discharges, contaminated properties, and other unregulated releases adversely affecting the state's waters. It is the Regional Board's intent to recover such costs for regulatory oversight work conducted in accordance with this order.

23. This action is being taken by a regulatory agency to enforce a water quality law. Such action is exempt from the provisions of the California Environmental Quality Act (Public Resources Codes, Section 21100 et seq.) in accordance with Section 15321, Chapter 3, Title 14, California Administrative Code.

IT IS HEREBY ORDERED that, pursuant to Section 13304, Division 7, of the California Water Code, McWhirter shall:

1. By December 21, 1998, submit a workplan acceptable to the Executive Officer for a groundwater and soil investigation which will accurately and effectively define the lateral and vertical extent of the on-site and off-site contamination. The workplan must describe any necessary soil borings and monitoring well installations needed to define the contamination. The workplan must describe the locations, depths,

construction details, and sampling procedures of the proposed additional monitoring wells; the analytical methods to be utilized; and the drilling and well construction methods. The workplan must include a proposed time schedule for the completion of the field work and the preparation and submittal of a complete report of findings and recommendations.

2. Implement the proposed workplan submitted pursuant to Item 1., above, in accordance with the time schedule approved by the Executive Officer.

3. Continue to conduct any additional field work necessary to further define the lateral and vertical extent of the plume, in accordance with the time schedule approved by the Executive Officer, until the extent of the plume is fully defined. This continuing work shall include regular quarterly well monitoring, as well as the installation of any additional groundwater monitoring wells determined to be necessary by the Executive Officer.

4. Within 60 days of being notified by the Executive Officer that it is appropriate to begin cleanup, submit a remedial action plan (RAP) to address the soil and groundwater contamination resulting from gasoline discharges from the site. The RAP shall include an evaluation of appropriate soil and hydraulic parameters. In addition, the RAP must specify all components and the design details of the remediation systems. The RAP shall include a time schedule for the installation of any treatment systems and appurtenant facilities necessary for the operation of the systems, the start-up of the system, and the submittal of a report on the findings of these activities.

5. Implement the proposed RAP submitted pursuant to Item 4., above, in accordance with the time schedule approved by the Executive Officer.

If, in the opinion of the Executive Officer, this order is not complied with in a reasonable and timely manner, this matter will be referred to the Board for the imposition of civil liability or referral to the Attorney General for imposition of judicial liability, as provided by law.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on November 20, 1998.

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Gerard J. Thibeault
Executive Officer